



## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

### NOTICE (11- 115)

National Environmental Policy Act; NASA Routine Payloads on Expendable Launch Vehicles

**AGENCY:** National Aeronautics and Space Administration

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321, *et seq.*), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500-1508), and NASA policy and procedures (14 CFR part 1216 subpart 1216.3), NASA has made a Finding of No Significant Impact (FONSI) with respect to the proposed launch of NASA Routine Payloads on expendable launch vehicles. The proposed launches would occur from existing launch facilities at Cape Canaveral Air Force Station (CCAFS), Florida, Vandenberg Air Force Base (VAFB), California, the United States Army Kwajalein Atoll/Reagan Test Site (USAKA/RTS) in the Republic of the Marshall Islands (RMI), NASA's Wallops Flight Facility (WFF), Virginia, and the Kodiak Launch Complex (KLC), Alaska.

This FONSI summarizes NASA's consideration of environmental impacts for routine payloads being launched at facilities addressed in the draft *Environmental Assessment (EA) for NASA Routine Payloads on Expendable Launch Vehicles dated August 2011*. The final EA updates the *Final Environmental Assessment for Launch of NASA Routine Payloads on Expendable Launch Vehicles from Cape Canaveral Air Force Station Florida and Vandenberg Air Force Base California* published in June 2002 (2002 NRP EA). The final EA and FONSI incorporate by reference the 2002 NRP EA. For completeness, much of the June 2002 NRP EA is restated in this final EA.

The Cooperating Agencies on this final EA include the Federal Aviation Administration, the Air Force Space and Missile System Center, the US Army Space and Missile Defense Command, and the National Oceanic and Atmosphere Administration.

**DATE:** Effective date is *[insert date of publication in the Federal Register]*.

**ADDRESSES:** The final Environmental Assessment (EA) that serves as the basis for this FONSI may be viewed at <http://www.nasa.gov/green/nepa/routinepayloaddea.html> or at the following locations:

- (a) NASA Headquarters, Library, Room 1J20, 300 E Street SW, Washington, D.C. 20546 (202-358-0167).
- (b) Central Brevard Library and Reference Center, 308 Forrest Avenue, Cocoa, FL 32922 (321-633-1792).
- (c) Jet Propulsion Laboratory, Visitors Lobby, Building 249, 4800 Oak Grove Drive, Pasadena, CA 91109 (818-354-5179).
- (d) NASA, Goddard Space Flight Visitor's Center, 8463 Greenbelt Road, Greenbelt, MD 20771 (301-286-8981).
- (e) Lompoc Public Library, 501 E. North Avenue, Lompoc, CA 93436 (850-875-8775).
- (f) Santa Maria Public Library, 420 South Broadway, Santa Maria, CA 93454-5199 (805-925-0994).
- (g) Government Information Center, Davidson Library, University of California, Santa Barbara, Santa Barbara, CA 93106-9010 (805-893-8803).
- (h) Vandenberg Air Force Base Library, 100 Community Loop, Building 10343A, Vandenberg AFB, CA 93437 (805-606-6414).
- (i) Chincoteague Island Library, 4077 Main Street, Chincoteague, VA 23336 (757-336-3460).

(j) NASA WFF Technical Library, Building E-105, Wallops Island, VA 23337 (757-824-1065).

(k) Eastern Shore Public Library, 23610 Front Street, Accomac, VA 23301 (757-787-3400).

(l) Kodiak Library, 319 Lower Mill Bay Road, Kodiak, AK 99615 (907-486-8680).

(m) NASA, Ames Research Center, Moffett Field, CA 94035 (650-604-3273).

(n) Grace Sherwood and Roi-Namur Libraries, P.O. Box 23, Kwajalein, Marshall Islands APO, A.P. 96555 (805-355-2015).

(o) Alele Public Library, P.O. Box 629, Majuro, Republic of the Marshall Islands 96960. (692-625-3372).

(p) Hampton Library, 4207 Victoria Blvd., Hampton, VA 23669 (757-727-1154).

A limited number of copies of the final EA are available by contacting Mr. George Tahu at the address below.

**FOR FURTHER INFORMATION CONTACT:** George Tahu, NASA Program Executive, Science Mission Directorate/Planetary Science Division, Mail Stop 3V71, NASA Headquarters, 300 E Street SW, Washington, D.C. 20546 via telephone at 202-358-0000 or electronic mail at [routine-payload-ea@lists.nasa.gov](mailto:routine-payload-ea@lists.nasa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Public Involvement**

NASA solicited public and agency review and comment on the environmental impacts of the Proposed Action through:

1. Publishing notices of availability of the Draft EA in local newspapers and the Federal Register;
2. Making the Draft EA available for review at local public libraries;
3. Publishing the Draft EA on the NASA Web site; and

#### 4. Consulting with Federal, state, and local agencies.

Comments received were considered in the final EA. Comments and responses to comments are provided in Appendix G of the final EA.

### **Proposed Action**

NASA proposes to carry out a variety of missions involving the launch of routine payloads over the next several decades.

By collecting a range of unique scientific and engineering data from space and transmitting the data to Earth, NRP spacecraft would support NASA's strategic goals:

- (a) To extend and sustain human activities across the solar system;
- (b) To expand scientific understanding of the Earth and the universe in which we live; and
- (c) To create the innovative new space technologies for our exploration, science, and economic future.

The proposed action includes preparing, launching and decommissioning missions identified as routine payload missions. Routine payload spacecraft would be placed into Earth orbit or into Earth-escape trajectories (i.e., solar orbit) using one of a group of expendable launch vehicles (ELVs) routinely launched from Cape Canaveral Air Force Station (CCAFS), Florida; Vandenberg Air Force Base (VAFB), California; Reagan Test Site at the U. S. Army Kwajalein Atoll in the Republic of the Marshall Islands (USAKA/RTS); NASA Wallops Flight Facility (WFF), Virginia; and, Kodiak Launch Complex (KLC), Alaska. The launch vehicles include: Athena I and II, the Atlas V family, the Delta family, the Taurus family, the Falcon family, the Pegasus XL, and the Minotaur family.

### **Alternatives**

Alternatives to the proposed action that were evaluated include: (1) utilizing a foreign launch vehicle or, (2) NASA would not launch spacecraft missions defined as routine payloads (the "no

action” alternative). U.S. launch vehicles are proposed for launch of NASA routine payloads. The nature of environmental impacts, payload processing, launch sites, and other related information for foreign launch systems are generally not as well known or as well documented as for launches from the U.S. In addition, use of non-U.S. launch vehicles requires individual consideration, review, and additional documentation. Therefore, foreign launch vehicles were not considered to be reasonable alternatives for the purpose of this routine payload spacecraft EA. The no action alternative would not meet the purpose and need for the action.

### **Environmental Impacts**

Maximum potential impacts to the human environment associated with the proposed action arise from the normal launch of the Atlas V (largest solids from CCAFS), the Delta IV (largest solids from VAFB), and the Delta II 2925 (largest hypergolic propellant load from CCAFS and VAFB). Launch accident scenarios have also been addressed and indicate no potential for substantial environmental impact to the human environment. Air emissions from the exhaust produced by the solid propellant and first stage primarily include carbon monoxide, hydrochloric acid, aluminum oxide in soluble and insoluble forms, carbon dioxide, and deluge water mixed with propellant by-products. The primary emission products from the liquid engines include carbon dioxide, carbon monoxide, water vapor, oxides of nitrogen, and carbon particulates. Air impacts will be short-term and not substantial. Short-term water quality and noise impacts, as well as short-term effects on wetlands, plants, and animals, would occur in the vicinity of the launch complex. These short-term impacts are of a nature to be self-correcting, and none of these effects would be substantial. There would be no impact on threatened or endangered species or critical habitat, cultural resources, or floodplains.

NASA routine payloads would follow the NASA guidelines regarding orbital debris and minimizing the risk of human casualty for uncontrolled reentry into the Earth’s atmosphere.

None of the NASA routine payload missions covered under the EA would have radioactive materials aboard the spacecraft, except for the possibility of very small quantities on certain missions for instrumentation purposes. Consequently, no potential substantial adverse impacts from radioactive substances are anticipated. No other individual or cumulative impacts of environmental concern have been identified.

The level and scope of environmental impacts associated with the launch of NASA routine payload are well within the envelope of impacts that have been addressed in previous EAs/FONSIs concerning other launch vehicles and spacecraft. NASA routine payloads would not increase launch rates nor utilize launch systems beyond the scope of approved programs at the identified launch sites. No specific NASA routine payload processing or launch activities have been identified that would require new permits and/or mitigation measures beyond those currently in place or in coordination. No significant new circumstances or information relevant to environmental concerns associated with the launch vehicles have been identified which would affect the earlier findings. NASA is formally adopting the existing launch vehicle/launch site NEPA documentation referenced in Appendix A of the final EA.

As specific spacecraft missions are sufficiently defined, they will be reviewed to determine whether or not the proposed mission falls within the scope of the final EA. If a proposed mission is found to be inconsistent with the routine payload categorization, additional environmental review will be conducted and documented, as appropriate.

NASA has reviewed the final EA prepared for the launch of Routine Payloads on expendable launch vehicles and has concluded that the final EA represents an accurate and adequate analysis of the scope and level of associated environmental impacts. NASA hereby incorporates the final EA by reference in this FONSI. On the basis of the final EA, NASA has determined that the environmental impacts associated with the proposed action would not individually or

cumulatively have an impact on the quality of the human environment. Therefore, an environmental impact statement is not required.

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Charles J. Gay  
Acting Associate Administrator for Science Mission Directorate

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